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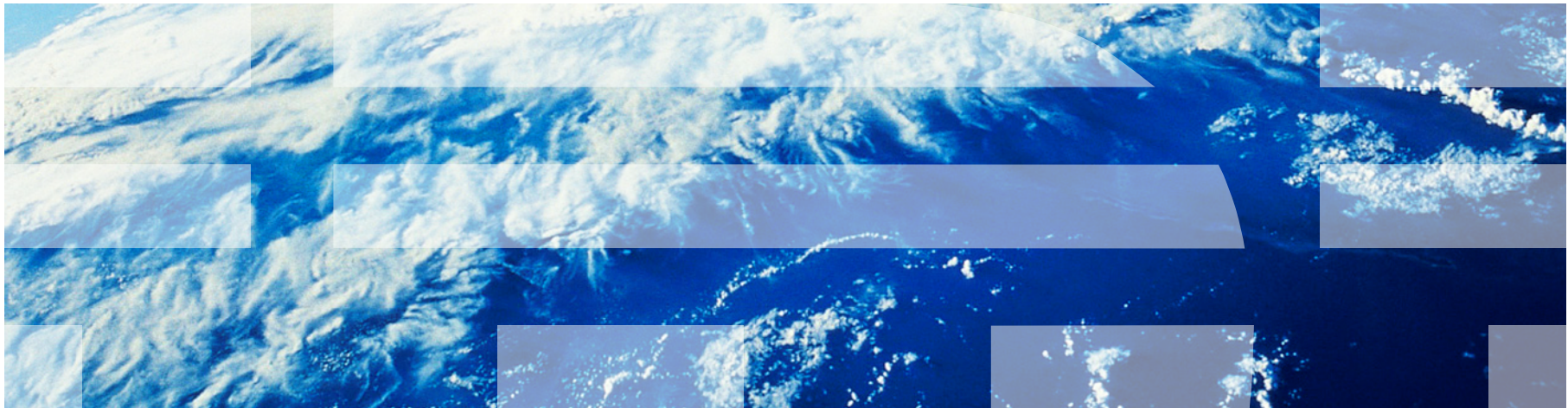
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# IMS Cloud

Using IMS to Build a Smarter Cloud



## **1. Centralized Computing: 1960 –**

- Optimized for sharing, industrial strength, systems management, ...
- Managed by central IT organization
- Back office applications involving transactions, shared data bases, ...
- Mainframes, supercomputers, minicomputers, ...

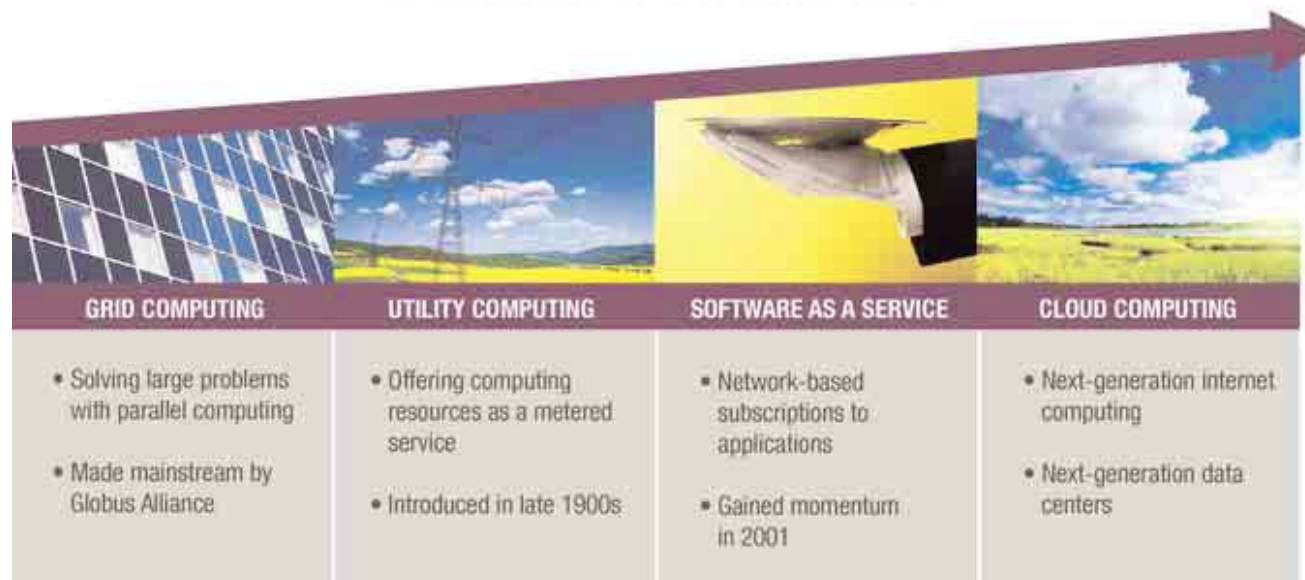
## **2. Client/Server: 1985 –**

- Optimized for low costs, simplicity, flexibility, ...
- Distributed management across multiple departments and organizations
- Large numbers of PC-based applications
- PC-based clients and servers, Unix, Linux, ...

## **3. Cloud Computing: 2010 –**

- New consumption and delivery model
- Optimized for massive scalability, delivery of services, ...
- Centralized model, hybrid service acquisition models
- Supports huge numbers of mobile devices and sensors
- Internet technology-based architecture

# And the Evolution of Cloud Computing



## Grid Computing

- leveraged several computers in parallel (clustered servers) to address a single problem or application

## Cloud Computing

- leverages several resources to deliver a service to the end-user
  - > Can support grids
  - > Can support non-grid environments, e.g., 3-tiered web architecture with traditional or Web 2.0 applications

- **National Institute of Standards and Technology (NIST)** defines a “cloud” as

*“a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources...that can be rapidly provisioned and released with minimal management effort or service provider interaction”*

## **Cloud computing**

- The practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server

## Any cloud system has to meet four basic requirements

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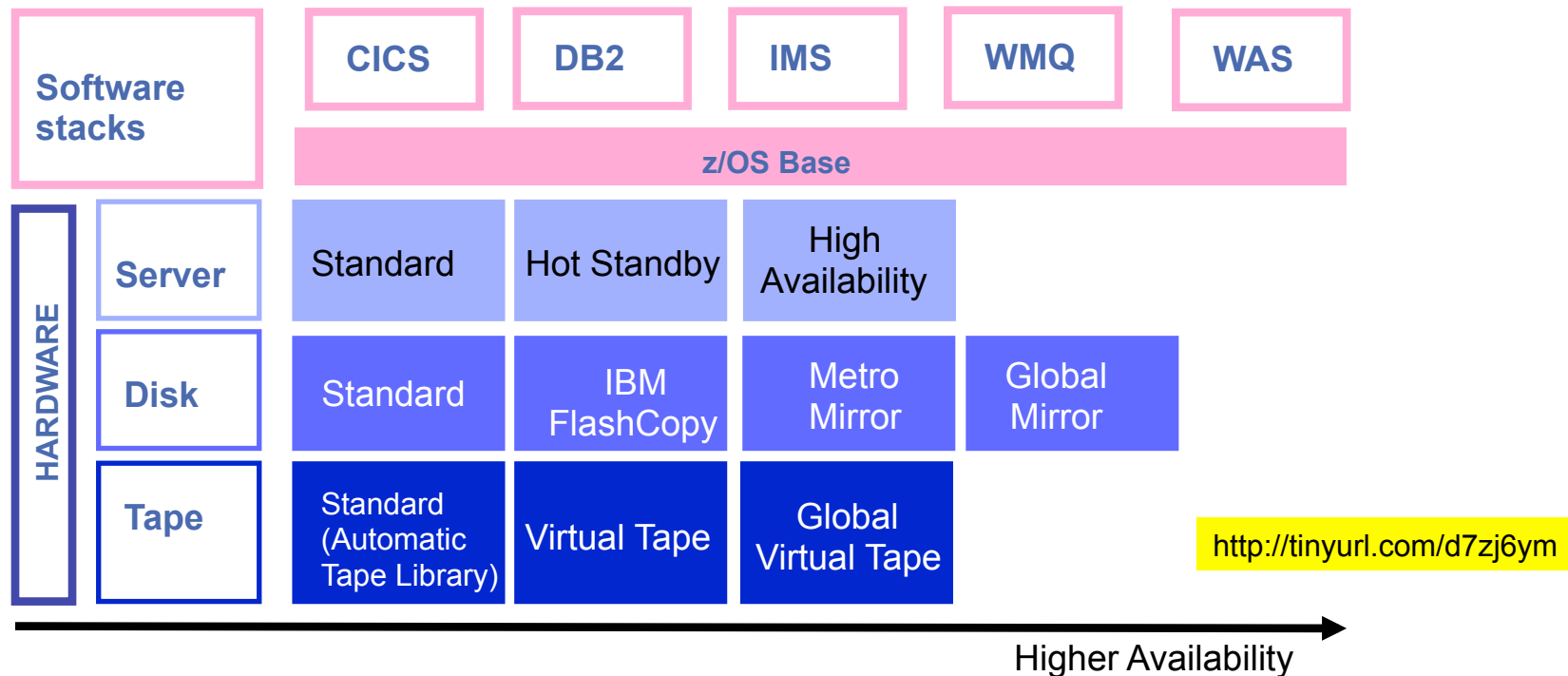


- **Scalability**  
involves the ability to grow large while functionality remains undiminished.
- **Resilience**  
is the ability to keep going when infrastructure elements fail.
- **Elasticity**  
is the ability to add resources to support a service without disruption of operations
- **Security**  
finally, a cloud must support requirements for applications

- **Organizations choose a cloud model based on their business model requirements**

- **I**nfrastructure **as a service (IaaS)**
  - Dynamically shared set of virtual computing resources**zEnterprise**
- **P**latform **as a service (PaaS)**
  - Builds on IaaS to provide application middleware**IMS**
- **S**oftware **as a service (SaaS)**
  - Provides higher levels of service delivery**IMS SOA Integration and Enterprise Suites**
- **B**usiness **p**rocess **as a service (BPaaS)**
  - Customer-written applications or business processes

- **The service provides shared, secure and scalable IBM z/OS mainframe capacity**
  - Offered as secured logical partitions (LPARs) within a continually refreshed, managed environment—in the cloud.

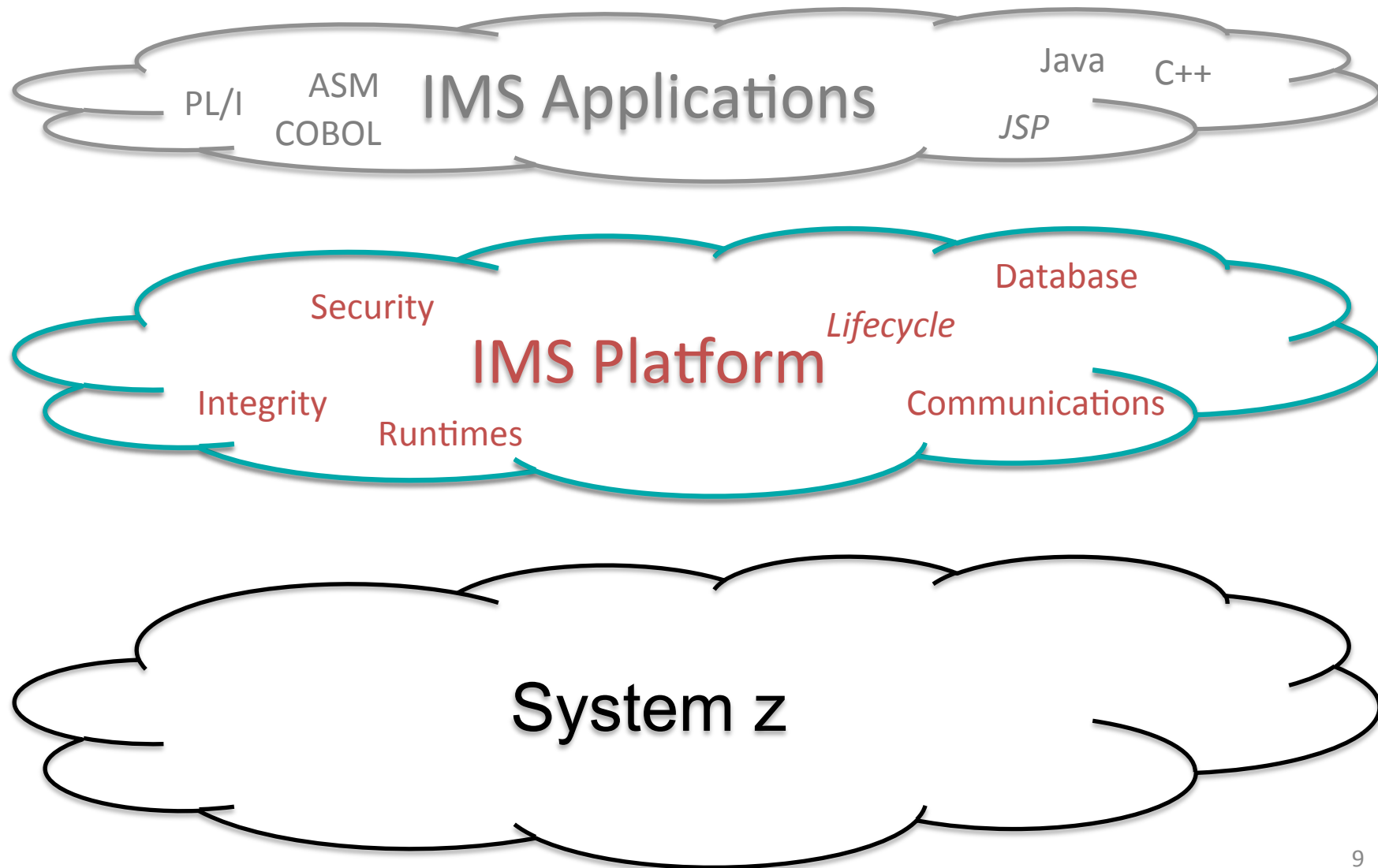


<http://tinyurl.com/d7zj6ym>

**Components of IBM SmartCloud Enterprise+ for System z – z/OS**

- **IMS leverages System z's support for cloud computing**
- **Extending the cloud to IMS**
  - Users tap IMS-based data and business logic as services
    - IMS SOA Integration and Enterprise Suites enable service interface (SaaS)
    - IMS TM controls the transaction workload within the PaaS
    - IMS DB provides database as a service (DBaaS)





- **IMS itself is a “cloud”**

- **Provides the Infrastructure (IaaS)**

- Dynamically shared set of virtual computing resources

- zEnterprise platform
    - Ability through Parallel sysplex capabilities to add new instances of IMS control regions with ease and transparency
      - Shared queues and data sharing
    - DRD allows IMS resources to be added dynamically

- **Builds on IaaS to provide the IMS platform as a service (PaaS)**

- IMS provides the application middleware environment for high-performing applications
    - DL/I and JDBC interfaces to get to resources

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## IMS – The Cloud

- **IMS itself is a “cloud” ...**
  - Provides service delivery to access software as services (**SaaS**)
    - IMS Integration and Enterprise Suites
    - Inbound – expose IMS transactions and data as services
    - Outbound – Callout to web services
  - Supports business processes as a service (**BPaaS**)
    - Customer-written applications or business processes

- **Cloud computing is a model of consuming and delivering**
  - IT services
  - Business services
  
- **IMS provides:**
  - The Quality of Service, dynamic nature, transparency... that are the goals of evolving cloud technology
  
  - Are already inherent in the IMS environment

Get more details about IMS & the cloud in the session:

**‘Neues aus der Welt von IMS und IMS Tools ‘,**

**Track 5, Mittwoch 20.03.2013 (12 – 13 Uhr)**